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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/532,525	10/21/2005	Nicholas P. De Luca	D-30335-01	6004
7590 Daniel B Ruble Scaled Air Corporation Law Department Post Office Box 464 Duncan, SC 29334			EXAMINER WU, VICKI H	
			ART UNIT 1791	PAPER NUMBER
			MAIL DATE 08/02/2010	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/532,525

**Applicant(s)**

DE LUCA, NICHOLAS P.

**Examiner**

VICKI WU

**Art Unit**

1791

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 May 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 21-39 and 48-55 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 21-39 and 48-55 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 April 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB06)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ ~~Notice of Informal Patent Application~~
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

This is a non-final Office action in response to applicant's remarks and claim amendments filed on 05/14/2010.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 21-23, 35-38, 48-49 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 5,088,047 (Bynum).

Regarding claim 21, Bynum teaches a machine comprising:

a conveyor adapted to movably support sequential discrete sheets of desired shapes (86, Figure 3; col. 10 lines 59-66);

a platform (66, Figure 3; col. 11 lines 29-36) below the conveyor adapted to receive the discrete sheets from the conveyor, wherein the platform and conveyor are movable relative each other (col. 11 lines 29-36):

i) to place the discrete sheets in stacked arrangement on the platform when receiving the discrete sheets from the conveyor (60, Figure 3; col. 11 lines 29-36);

ii) to compress the stacked arrangement of discrete sheets between the platform and the conveyor (col. 11 lines 29-36).

Regarding claim 22, Bynum teaches the machine wherein;

the conveyor is adapted to movably support the sheet stock (86, Figure 3; col. 11 lines 29-36); and

the machine further comprises one or more cutting heads (99, Figure 3; col. 11 lines 36-38) movably transversely and longitudinally relative to the conveyor and adapted to cut the sheet stock supported by the conveyor into the discrete sheets (60, Figure 3; col. 11 lines 36-38).

Regarding claim 23, Bynum teaches the machine further comprises a computerized controller for controlling the movements of the conveyor, the one or more cutting heads, and the platform (col. 3 lines 23-50).

Regarding claim 35, Bynum teaches the platform is movable upwardly toward the conveyor to compress the stacked arrangement of discrete sheets between the platform and the conveyor (col. 11 lines 29-36).

Regarding claim 36, Bynum teaches the platform further comprises a conveyor (66, 86, Figure 3; col. 11 lines 29-36).

Regarding claim 37, Bynum teaches a sheet stock feeding system upstream of the conveyor (92, Figure 3; col. 11 lines 7-12).

Regarding claim 38, Bynum teaches the sheet stock feeding system is adapted to supply a continuous sheet of sheet stock of cushioning material to the conveyor (92, Figure 3; col. 11 lines 7-12).

Regarding claim 48, Bynum teaches a machine comprising:

- a conveyor adapted to movably support sheet stock (86, Figure 3; col. 10 lines 59-66);

- one or more cutting heads transversely and longitudinally relative to the conveyor (99, Figure 3; col. 11 lines 36-38)) to define a cutting area over the conveyor, and adapted to cut the sheet stock into the cutting area over the conveyor while the sheet stock is supported by the conveyor into sequential discrete sheets of desired shapes (60, Figure 3; col. 11 lines 36-38); and

- a platform (66, Figure 3; col. 11 lines 29-36) adapted to receive the discrete sheets from the conveyor, wherein the platform and conveyor are movable relative each other (col. 11 lines 29-36):

- i) to place the discrete sheets in stacked arrangement on the platform when receiving the discrete sheets from the conveyor (60, Figure 3; col. 11 lines 29-36); and

ii) to compress the stacked arrangement of discrete sheets between the platform and the conveyor (col. 11 lines 29-36).

Regarding claim 49, Bynum teaches the platform and conveyor are movable relative each other to compress the stacked arrangement of discrete sheets between the platform and the conveyor (col. 11 lines 29-36).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 24-27, 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5,088,047 (Bynum).

Regarding claims 24-27, 50, the teachings of the limitations of Bynum are detailed above in the rejection of claims 21, 48 under 35 U.S.C. 102(b).

Specifically regarding claim 25, Bynum teaches the conveyor is adapted to movably support the sheet stock (86, Figure 3; col. 11 lines 29-36);

the machine further comprises one or more cutting heads (99, Figure 3; col. 11 lines 36-38) movably transversely and longitudinally relative to the conveyor and adapted to cut the sheet stock supported by the conveyor into the discrete sheets (60, Figure 3; col. 11 lines 36-38).

However, Bynum does not expressly disclose that the conveyor comprises a vacuum conveyor. Bynum further does not expressly disclose an adhesion station upstream from the platform that is adapted to apply an adhesive to discrete sheets, or a heating station upstream from the platform that is adapted to heat the discrete sheets.

However, an alternative embodiment of Bynum teaches a method and apparatus for processing discrete laminate sheets, said apparatus comprising a vacuum conveyor (10, Figure 4A; col. 12 lines 17-26) that applies vacuum to a platform (108, Figure 4A; col. 12 lines 16-26), and an adhesion station upstream from the platform that is adapted to apply an adhesive to discrete sheets (134, Figure 4D; col. 12 lines 66-68; col. 13 line

1), and a heating station upstream from the platform that is adapted to heat the discrete sheets (132, Figure 4D; col. 12 lines 63-66).

It would have been obvious to one ordinarily skilled in the art at the time the invention was made to incorporate the specific apparatus feature(s) of the alternate embodiment of Bynum in order to modify the apparatus of the main embodiment of Bynum. The rationale to do so would have been the motivation provided by the teachings of the advantages to incorporating said feature(s) of the alternate embodiment; that in incorporating said feature(s), the resulting apparatus becomes more capable of forming large objects of relatively thick sections at a more rapid manufacturing pace, which is desirable in the industrial art (Bynum: col. 11 lines 65-68; col. 12 lines 1-7).

Claims 28-31, 33-34, 39, 51-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5,088,047 (Bynum) in view of US Patent 5,024,862 (Frank).

Specifically regarding claim 28, the teachings of the limitations of Bynum are detailed above in the rejection of claim 21 under 35 U.S.C. 102(b). Bynum does not expressly disclose the one or more cutting heads comprise:

a first set of one or more cutting heads movable transversely and longitudinally relative to the conveyor and adapted to cut inner scrap cutouts from the sheet stock supported by the conveyor; and

a second set of one or more cutting heads movable transversely and longitudinally relative to the conveyor and adapted to cut the sheet stock supported by the conveyor into sequential discrete sheets of desired shapes.

Specifically regarding claim 29, Bynum does not expressly disclose a vacuum head adapted to lift the inner scrap cutouts from the conveyor.

Specifically regarding claim 30, Bynum does not expressly disclose:

the second set of one or more cutting heads is downstream from the first set of one or more cutting heads; and

the vacuum head is downstream from the first set of one or more cutting heads and upstream from the second set of one or more cutting heads.

Specifically regarding claim 31, Bynum does not expressly disclose the one or more cutting heads are movably supported above the conveyor by rails.

Specifically regarding claim 33, Bynum does not expressly disclose the one or more cutting heads comprise a plurality of cutting heads.

Specifically regarding claim 34, Bynum does not expressly disclose the plurality of cutting heads are adapted to cut multiple sheets of the same shape oriented perpendicular to the direction of travel of the conveyor.

Specifically regarding claim 39, Bynum does not expressly disclose the sheet stock feeding system is adapted to supply individual portions of sheet stock of cushioning material to the conveyor

Regarding claim 28, Frank teaches an apparatus for automated cutting of composite material, said apparatus comprising a moving conveyor (34, Figure 1; col. 3 lines 12-17) comprising a vacuum (Figure 1; col. 3 lines 12-17), and:

a first set of one or more cutting heads movable transversely and longitudinally relative to the conveyor and adapted to cut inner scrap cutouts from sheet stock (22, Figure 1; col. 2 lines 63-66) supported by the conveyor (44d, 46d, Figure 2A-2F; col. 3 lines 23-41); and

a second set of one or more cutting heads movable transversely and longitudinally relative to the conveyor and adapted to cut the sheet stock supported by the conveyor into sequential discrete sheets of desired shapes (28, Figure 1; col. 3 lines 3-11).

Regarding claim 29, Frank teaches a vacuum head adapted to lift the inner scrap cutouts from the conveyor (col. 3 lines 37-41).

Regarding claim 30, Frank teaches the second set of one or more cutting heads (28, Figure 1; col. 3 lines 3-11) is upstream from the first set of one or more cutting heads (44d, 46d, Figure 2A-2F; col. 3 lines 23-41); and

the vacuum head is downstream from the first set of one or more cutting heads and from the second set of one or more cutting heads (Figure 3).

Shifting the position of the first and second sets of cutting heads would not have modified the operation of the machine of Frank. The placement of said sets is an obvious matter of design choice. *In re Japikse*, 181 F.2d 1019, 86 USPQ 70 (CCPA 1950).

Regarding claim 31, Frank teaches the one or more cutting heads are movably supported above the conveyor by rails (48, 50, Figures 2A-2F; col. 3 lines 23-30).

Regarding claim 33, Frank teaches the one or more cutting heads comprise a plurality of cutting heads (44d, 46d, Figure 2A-2F; col. 3 lines 23-41).

Regarding claim 34, Frank teaches the plurality of cutting heads are adapted to cut multiple sheets of the same shape oriented perpendicular to the direction of travel of the conveyor (44d, 46d, Figure 2A-2F; col. 3 lines 23-41).

Regarding claim 39, Frank teaches the sheet stock feeding system is adapted to supply individual portions of sheet stock (52, Figure 1; col. 3 lines 37-41) of cushioning material to the conveyor (34, Figure 1; col. 3 lines 37-41).

It would have been obvious to one ordinarily skilled in the art at the time the invention was made to incorporate the specific cutting and feeding configurations of the apparatus of Frank in order to modify the apparatus of Bynum. The rationale to do so would have been the motivation provided by the teachings of the advantages to incorporating said configurations of Frank; that in incorporating said configurations, the production of layups of laminated material is made much more efficient; any number of layups can be made more quickly and with reduced generation of scrap / waste material (Frank: col. 4 lines 38-41).

Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5,088,047 (Bynum) in view of US Patent 4,620,466 (Jumel).

Regarding claim 32, the teachings of the limitations of Bynum are detailed above in the rejection of claim 22 under 35 U.S.C. 102(b). Bynum does not expressly disclose the one or more cutting heads comprises one or more water jet cutting heads.

Jumel teaches a method of cutting a strip-like material using a high-pressure water jet (col. 1 lines 34-47; col. 5 lines 36-45).

It would have been obvious to one ordinarily skilled in the art at the time the invention was made to substitute the specific device of Jumel in order to replace the cutting head(s) of Bynum. The rationale to do so would have been the motivation provided by the teachings of the advantages to incorporating said device of Jumel; that said device provides improved service, with virtually no idle times between successive cutting of parts (Jumel: col. 4 lines 48-53).

Claims 51-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5,088,047 (Bynum) in view of US Patent 5,024,862 (Frank).

Regarding claims 51-52, Bynum teaches a machine comprising:

one or more cutting heads transversely and longitudinally relative to the conveyor (99, Figure 3; col. 11 lines 36-38) and adapted to cut the sheet stock into sequential discrete sheets of desired shapes (60, Figure 3; col. 11 lines 36-38);

a conveyor belt adapted to movably support discrete sheets (86, Figure 3; col. 10 lines 59-66); and

a platform (66, Figure 3; col. 11 lines 29-36) adapted to receive the discrete sheets from the conveyor belt, wherein the platform and conveyor belt are movable relative to each other (col. 11 lines 29-36):

i) to place the discrete sheets in stacked arrangement on the platform when receiving the discrete sheets from the conveyor belt (60, Figure 3; col. 11 lines 29-36); and

ii) to compress the stacked arrangement of discrete sheets (col. 11 lines 29-36).

Bynum does not expressly disclose a plurality of cutting heads, or that said plurality of cutting heads are adapted to cut multiple sheets of the same shape oriented perpendicular to the direction of travel of the conveyor belt.

Frank teaches an apparatus for automated cutting of composite material, said apparatus comprising a moving conveyor (34, Figure 1; col. 3 lines 12-17) comprising a vacuum (Figure 1; col. 3 lines 12-17), and:

a plurality of cutting heads movable transversely and longitudinally relative to a sheet stock and adapted to cut the sheet stock into discrete sheets of desired shapes (22, Figure 1; col. 2 lines 63-66).

Frank further teaches the plurality of cutting heads are adapted to cut multiple sheets of the same shape oriented perpendicular to the direction of travel of the conveyor (44d, 46d, Figure 2A-2F; col. 3 lines 23-41).

It would have been obvious to one ordinarily skilled in the art at the time the invention was made to incorporate the specific cutting and feeding configurations of the apparatus of Frank in order to modify the apparatus of Bynum. The rationale to do so would have been the motivation provided by the teachings of the advantages to incorporating said configurations of Frank; that in incorporating said configurations, the production of layups of laminated material is made much more efficient; any number of layups can be made more quickly and with reduced generation of scrap / waste material (Frank: col. 4 lines 38-41).

Regarding claim 53, Bynum teaches the platform (66, Figure 3; col. 11 lines 29-36) is below the conveyor belt (86 in relation to 66, Figure 3; col. 11 lines 29-36).

Regarding claim 54, Bynum teaches the platform and conveyor belt are movable relative each other to compress the stacked arrangement of discrete sheets between the platform and the conveyor belt (col. 11 lines 29-36).

Claim 55 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5,088,047 (Bynum) in view of US Patent 5,024,862 (Frank), and in further view of US Patent 4,620,466 (Jumel).

Regarding claim 55, the teachings of the limitations of Bynum in view of Frank are detailed above in the rejection of claim 51 under 35 U.S.C. 103(a). Bynum in view of Frank does not expressly disclose the cutting heads comprise water jet cutting heads.

Jumel teaches a method of cutting a strip-like material using a high-pressure water jet (col. 1 lines 34-47; col. 5 lines 36-45).

It would have been obvious to one ordinarily skilled in the art at the time the invention was made to substitute the specific device of Jumel in order to replace the cutting head(s) of Bynum in view of Frank. The rationale to do so would have been the motivation provided by the teachings of the advantages to incorporating said device of Jumel; that said device provides improved service, with virtually no idle times between successive cutting of parts (Jumel: col. 4 lines 48-53).

### ***Response to Arguments***

Applicant's arguments with respect to claims 21-39, 48-55 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to VICKI WU whose telephone number is (571)270-7666. The examiner can normally be reached on M-F (8:30 am-6:30 pm), every other Fri. off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Del Sole can be reached on 571-272-1130. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/N.W./  
Patent Examiner, TC 1791

/Joseph S. Del Sole/  
Supervisory Patent Examiner, Art Unit 1791